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Thoughts on the book *Victory Through Air Power*

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de Seversky, Alexander P. *Victory Through Air Power*. New York: Simon and Schuster, 1942. Here are links to Wikipedia articles about the [book](#) and its [author](#).

Introduction

I read this book as a young boy and it made a strong impression on me. I have reread it several times since then. Just lately I decided to research some of the data in the book to see how it compares with modern sources. Considering it was published in wartime (less than six months after Pearl Harbor), it is amazingly accurate in many of its details. For example, Seversky's book gives the same airspeed for the German Stuka dive bomber as an official German manual of the time (presumably not public information) that is quoted in the Wikipedia article about this aircraft.

In this essay, written to be published online, I include many links to relevant Wikipedia articles about the topics being discussed. Wikipedia content can change from second to second, so for quotations from it in this essay I use a permanent link to the version of the article I am quoting from. I also include some other online sources (gathered between May and August 2010), and some references to printed books. When referring to page numbers in Seversky's book, I use "VTAP" as an abbreviation.

This essay isn't a complete analysis of Seversky's book. Instead, it is a collection of whatever caught my attention enough to make me think about possible connections to related information. For example, I had a hunch and did [some research](#) that tentatively identifies Charles Lindbergh as the unnamed "aviation hero" on VTAP p.69 who makes "claims of Germany's supreme aerial destiny." Lindbergh was well-known at the time for speaking about the overwhelming power of German aviation, but at least one author claims Lindbergh was tricked by the Germans into being used as a tool for their purposes (Mosley, Leonard. *Lindbergh: A Biography*. New York: Doubleday and Company, 1976. Book Club Edition. p.224.)

I point out some of the connections between Charles Lindbergh and some of the aircraft mentioned in Seversky's book. The page of photographs facing VTAP p.243 shows three of America's newest aircraft at the time this book was written. Lindbergh's later wartime activities were directly involved with two of these aircraft (the F4U fighter and B-24 bomber), and his field work on increasing the bomb load of the F4U indirectly affected the third aircraft (the SB2C dive bomber), because the ability of late-war fighters to carry larger bomb loads rendered dive bombers obsolete.

I also did [a bit of research](#) that identifies the Curtiss Hawk 75 as probably being the “certain American planes” Seversky refers to as being bought by the French in “considerable numbers” even though they are “irrefutably inferior” to his company's plane. The use of this Curtiss fighter by the French is well-known. What I do is show how three key phrases used by Seversky in one quotation from his book can be tied to this aircraft.

Victory Through Air Power includes information of contemporary historical events up to March 1942, and also describes and shows photographs of new aircraft such as the XB-19 superbomber, XB-24 Liberator, XP-47B Thunderbolt, XF4U-1 Corsair, XSB2C-1 Helldiver and XPB2M-1 Mars flying boat that were at that time in the prototype or testing stage. Seversky got some historical details wrong (such as thinking the Japanese battleship *Haruna* was sunk early in the Pacific war) but overall, he shows remarkable awareness of the military events of the time and their significance in terms of military aviation tactics and strategy. He also correctly predicts air-to-air missiles will become the main weapons of fighter aircraft, and that propellers may be replaced by “promising new experiments” (jet propulsion was just beginning then).

Besides summarizing and analyzing the events of the war in terms of air power, Seversky's book emphasizes the need for a separate Air Force, the need for longer range in bombers and pursuits, and the need for sufficient defensive fire-power in bombers. Throughout the book, he bashes battleships and fixed fortifications as obsolete in the day of aerial warfare, praises the late General Billy Mitchell, points out the decline of sea power, the aviation mistakes of Europe and the United States, and lays out a detailed plan for the reorganization of American air power for victory over the Japanese and the Germans.

America's Giant Planes

The title of this section comes from the page of photographs facing VTAP p.18. Truly, these planes were huge. As an example of the progress aviation had made in the forty years since the Wright brothers' first flight, a scene in the 1943 Disney animated film *Victory Through Air Power* (based on this book) shows the one hundred twenty foot first flight of their 1903 Flyer taking place on the wing of the B-19 bomber in flight with ninety-two feet to spare! Orville Wright (one of the Wright brothers) may have seen this movie, because according to a web page that was titled *AmericanHeritage.com / Tinkering With History: Historic Aircraft, Winged Survivors* (link no longer works August 2011), when Orville was photographed at the controls of a Lockheed Constellation four-engine airliner on April 26, 1944: “He noted that his first wobbling flight of 120 feet had been shorter than the Constellation's wingspan.” These giant planes were built mainly as experiments, and Seversky points this out more than once. On VTAP p.16 he says:

They [the B-19 and Glenn Martin flying boat] were conceived some time ago, as purely aerodynamic experiments, without planned relation to practical employment in warfare.

And on VTAP p.339:

The present B-19 and Glenn Martin, having been designed years ago without benefit of recent aeronautical experience, leave much to be desired in the matter

of military characteristics.

Nonetheless, Seversky uses these aircraft several places throughout his book as examples of the potential of air power to strike over long ranges.

Douglas XB-19

The caption to the photograph facing VTAP p.18 reads “The 82-ton Douglas B-19 bomber; range, 7800 miles; bomb load, 18 tons.” VTAP p.163 and p.170 have more about the B-19. The Wikipedia article [Douglas XB-19](#) uses the “X” prefix in the aircraft designation because this was an experimental prototype aircraft that never achieved production status. According to that article:

Douglas Aircraft Company strongly wanted to cancel the project, because it was extremely expensive. Despite advances in technology that made the XB-19 obsolete before it was even completed, the Army Air Corps felt that the prototype would be useful for testing.

The “National Museum of the US Air Force” website had a Factsheet (used to be at www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=2489 but no longer available December 2015) about the Douglas XB-19 that confirms the aircraft was obsolete before it was finally built but was completed anyway for test use. Instead of the 18 tons of bombs listed in VTAP, it could carry 18 thousand pounds (about half what VTAP claimed). Instead of an 82 ton aircraft, it is closer to 70 tons. The Factsheet lists “Range: 7,900 miles (maximum ferry range); 7,300 miles with 6,000 lbs. of bombs” which is close to what VTAP says.

Glenn Martin flying boat

The Glenn Martin flying boat that Seversky refers to more than once in VTAP (usually when also talking about the B-19) is the XPB2M-1 Mars patrol bomber, shown in the bottom photograph facing VTAP p.18. It was the world's largest flying boat at the time this book was written although the prototype of this aircraft did not actually fly until after this book was published. It has a twin tail instead of the single tail of the later JRM Mars transport versions .

Examples of how up to date this book was

This book was published less than six months after Pearl Harbor, yet the text refers to events as recent as March 1942. VTAP pp.249–250 quotes a dispatch from Burma, March 12, 1942. VTAP pp.250–251 quotes an Associated Press dispatch out of Java March 7, 1942. Both dispatches complain about the relative inferiority of American fighter aircraft compared to enemy machines. Seversky does not specifically name the Japanese Zero fighter in his book, but those are most likely the enemy aircraft referred to in the dispatches. VTAP p.141 says “Press dispatches have described Japanese fighter planes powered with engines of 1675 horsepower, and carrying two 20-mm. cannons in addition to light machine guns.” While the description of its armament is accurate, the Mitsubishi A6M Zero was actually powered by a Nakajima Sakae engine of 950 horsepower.

British Aircraft

Supermarine Spitfire

VTAP p.58 “The backbone of the British fighter command was the Spitfire, which was and remains the most effective single-engined fighter in the world.” When Seversky visited Europe in 1939, he was allowed to fly the Spitfire. On VTAP p.195 he says

Up in the air in the British pursuit, checking its speed at critical altitudes, I was more convinced than ever that the Germans, for all their mass of equipment, would have a hard nut to crack when they ran up against the Spitfires.

When Seversky discusses the relative inferiority of American fighter aircraft on VTAP p.247 he asks “why did we not stop making the obsolete planes and put the British Spitfire into production? It was then generally recognized as the best pursuit extant and after three years it still merits that distinction.” A few lines later discussing the war in the southwestern Pacific, Seversky adds “Had our qualitative potential been at the Spitfire instead of the P-40 level, the picture might readily have been vastly different.”

Hawker Hurricane

On VTAP p.243 Seversky complains about the Americans adopting a foreign aircraft engine (Rolls-Royce Merlin) of similar horsepower to the Allison V-1710 instead of adopting the [Napier Sabre](#) that is twice as powerful. He mistakenly says the Napier Sabre is “eminently successful in the Spitfire and Hurricane.” VTAP p.58 also claims that the latest version of the Hurricane uses a Napier Sabre engine. The Sabre was used in the Hawker Typhoon. All variants of the Hawker Hurricane used the Merlin engine (Packard-built Merlins in those Hurricanes built in Canada). Early model Spitfires also used the Rolls-Royce Merlin engine. Later model Spitfires used the Rolls-Royce Griffon, a bigger more powerful development of the Merlin.

Hurricat

VTAP p.124 “fighter planes on catapults were installed on merchantmen...”

VTAP p.159 describes the Hurricat but doesn't call it by that name:

They [the British] began to install on merchantmen fighter aircraft, which are catapulted from the decks when enemy planes appear. Hurricane planes thus are often able to attack Hitler's four-motored Focke-Wulfe [sic] bombers, after which they alight at sea, forfeiting the plane, or make for the nearest shore if they have enough flying range left.

The [Variants](#) section of the Wikipedia article about the Hawker Hurricane has a subsection on the “ Sea Hurricane Mk IA” that describes the Hurricat. There is also a Wikipedia article on the CAM ship, or Catapult Aircraft Merchantman.

Hurribomber

VTAP p.226 describes the Hurribomber but doesn't call it by that name: "In Libya, for example, Hurricanes fitted out with bomb racks played an important part in bombing mechanized ground forces." (See also "FIGHTER INTO BOMBER" photograph facing VTAP p.224). The Wikipedia article on [Hawker Hurricane variants](#) says:

The Hurricane IIA Series 2s armed with four 20 mm (.79 in) Hispanos become the Mark IIC in June 1941, using a slightly modified wing. The new wings also included a hardpoint for a 500 lb (227 kg) or 250 lb (113 kg) bomb, and later in 1941, fixed 40 gal (182 l) fuel tanks. By then performance was inferior to the latest German fighters, and the Hurricane changed to the ground-attack role, sometimes referred to as the Hurribomber.

Tie-in to John F. Kennedy

VTAP p.211 mentions "why England slept." This is *most likely* a reference to John F. Kennedy's book published in 1940 *Why England Slept*.

United Nations

VTAP p.247 mentions "United Nations." This is before that organization was officially formed. According to the Wikipedia article [Allies of World War II](#)

During December, 1941, U.S. President Franklin Roosevelt devised the name "United Nations (UN)" for the Allies. He referred to The Big Three and China as a "trusteeship of the powerful", and then later "the Four Policemen".^[9] The Declaration by United Nations, on 1 January 1942, was the basis of the modern UN.^[10]

- [9] Doenecke, Justus D.; Stoler, Mark A. (2005). *Debating Franklin D. Roosevelt's foreign policies, 1933-1945*. Rowman & Littlefield.
- [10] Douglas Brinkley, *FDR & the Making of the U.N.*

Source number [10] above may be incorrect. I could not find any information for a book of that exact title by that author, but the following one comes close: Hoopes, Townsend; Brinkley, Douglas. *FDR and the Creation of the U.N.* Yale University Press.

German aircraft

Junkers Ju 87 Stuka

VTAP p.224 "Although dive-bombers were an American development, it took Hitler to show our Army how to use it."

VTAP p.251 "ignored even purely American developments like dive-bombers."

VTAP p.44 describes the German Stuka dive bomber as having a "top speed of 242 miles an hour." This is the same figure given in the Wikipedia article about

the Stuka which uses data from *Ju 87 B-2 Betriebsanleitung, Juni 1940 (D.(Luft) T.2335/1)* as the source for [Specifications Ju 87 B-2](#). The section on "Performance" lists "Maximum speed: 390 km/h @ 4,400 m (242 mph @ 13,410 ft)."

Junkers Ju 88

On VTAP p.53 Seversky describes the Junkers 88 as a "twin-engined dive-bomber" (see the Wikipedia article [Junkers Ju 88](#)). The Junkers 88 was the fastest of the twin-engined bombers used by the Germans at the beginning of the war, but its entry into active service was delayed in part by the many design changes needed to make it possible for it to dive (Bekker, Cajus. *The Luftwaffe War Diaries, transl. and ed. by Frank Ziegler*. New York: Ballantine Books, 1969, p.73).

Regarding its defensive armament, I found the following text about an encounter between Ju 88s and Spitfires during the Battle of Britain on p.244 of *The Luftwaffe War Diaries*:

The "wonder bomber", once considered fast enough to elude enemy fighters by sheer speed, was in fact about 100 m.p.h. slower than the Spitfire. And against the latter's eight machine-guns firing from the wings, the Ju 88 could only defend itself with a single backward-firing one.

Heinkel He 111

After describing the Junkers 88 on VTAP p.53, Seversky says "Slower by some twenty-five miles, but otherwise very similar to the Junkers 88, with the same disposition of armament and crew, was the horizontal bomber, the Heinkel III Mark V..." Seversky's book makes an error in nomenclature regarding this bomber. He calls it the "Heinkel III" when the correct designation is Heinkel 111. This understandable error (III instead of 111) has been made by other people too, including even a BBC web page at [BBC - WW2 People's War - Heinkel III crashes in Smethwick](#).

VTAP p.55 has a drawing comparing the firepower of a Spitfire versus the defensive firepower of a Heinkel bomber. It is quite a contrast, an eight to one advantage for the Spitfire. As Seversky points out on VTAP p.53, "the most serious handicap of the German bombers was insufficient defensive fire power. In most instances they could meet an eight-gun assault from a British pursuit with only one gun, making a hopeless ratio of eight to one."

The Wikipedia article [Heinkel He 111](#) says "It fared well until the Battle of Britain, when its weak defensive armament..." This backs up what Seversky points out several times in VTAP about the weak defensive firepower of German bombers in general and the Heinkel 111 in particular.

Dornier Do 17

VTAP p.53 also mentions the Dornier 17 "flying pencil." See the Wikipedia article [Dornier Do 17](#). A "Dornier D-215" is shown on the second page of photographs following VTAP p.64 that show the German and British aircraft involved in the Battle of Britain. According to the Wikipedia article on the [Dornier Do 215](#), this is

the export version of the Dornier Do 17Z, fitted with Daimler-Benz DB 601 inline engines instead of Bramo 323 radial engines. Even though it was originally produced for export, all but two of the 105 produced served in the Luftwaffe (two aircraft were sold to the Soviet Union).

Messerschmitt Bf 109 and Bf 110

VTAP p.54 discusses the single-engine Messerschmitt 109 which with various upgrades served as the main fighter plane of the Luftwaffe throughout the war. VTAP p.56 describes the twin-engine Messerschmitt 110 which also served (in smaller numbers) throughout the war, although it miserably failed in fighter versus fighter combat.

Focke-Wulf Fw 190

While Seversky was well aware of the Messerschmitt 109 fighter, there is no mention in his book of this other major German single-engine fighter of World War II. According to the Wikipedia article [Focke-Wulf Fw 190 operational history](#):

The first significant operation in which Fw 190s played an important role was Operation Cerberus, the "Channel Dash" break-out through the English Channel and Dover Strait by the *Kriegsmarine's* battlecruisers *Scharnhorst* and *Gneisenau* and the heavy cruiser *Prinz Eugen*, which took place on 12 February 1942.

Seversky DOES mention the February 1942 sortie of the *Scharnhorst*, *Gneisenau* and *Prinz Eugen* on VTAP pp.123–124 (another example of how up to date his book was when it was first published), but he apparently did not know about the Focke-Wulf Fw 190 fighter plane when he wrote this book. He wasn't alone in his ignorance. Again according to the Wikipedia article about the Focke-Wulf Fw 190 operational history:

For the first few months of the Fw 190's combat career, the Allies, being entirely unaware of the new fighter, attributed pilots' reports of a new "radial-engined fighter" to Curtiss P-36 Mohawks captured from the French.

This is slightly ironic, in that the P-36 and its development the inline-engined P-40 seemed to be personal *bête noires* of Seversky.

Heinkel 113

Seversky apparently didn't know about the Focke-Wulf 190 which entered service in 1941, but on VTAP p.56 he briefly talks about the Heinkel 113 (a spurious designation of the Heinkel He 100, a pre-World War II German fighter design). The He 100 was built in small numbers by the Heinkel company but never approved for production by the Luftwaffe, even though (as Seversky points out), it was faster than the Messerschmitt 109. In 1940 the few He 100s that were built were photographed at different air bases repainted with different fictional squadron markings to suggest that there were more of them than actually existed and that they were in operational service. In these propaganda photographs the aircraft were identified as "Heinkel He 113" even though their actual designation was Heinkel He 100.

Apparently He 113 WAS the original designation of this aircraft, but at least one source says that the designer asked for a new designation because this aircraft was intended to break the world's speed record. There are other websites that claim this change was requested because of superstition over the use of the number 13. The development of this aircraft is described in Bekker, Cajus. *The Luftwaffe War Diaries, transl. and ed. by Frank Ziegler*. New York: Ballantine Books, 1969, pp.185–193. See also the Wikipedia articles on the [Heinkel He 100](#) and [Heinkel He 113](#) (the information about the original designation of this aircraft comes from the [Discussion page](#) for the latter article).

Soviet aircraft

Heavy bombers

On VTAP p.111 Seversky says “Moscow's main aviation difficulty has concerned airplane engines” but adds “Engine inferiority does not so much affect the value of heavy bombers, since total horsepower can be increased by installing additional engines; Russian bombers, for instance, carry six engines where similar aircraft in other countries usually carry only four.” Seversky may be referring to the Tupelov ANT-16 (a.k.a. TB-4) experimental heavy bomber of the early 1930s that had six engines, but its performance was disappointing and only one of these was built. The giant [Tupelov ANT-20](#) (a.k.a. the *Maxim Gorky*) transport aircraft with eight engines and the Tupelov ANT-20bis (later transport version with six more powerful engines) were developed from the TB-4. Only one of each type was built, mainly for propaganda purposes.

Another experimental Russian heavy bomber of the early 1930s was the Kalinin K-7 . The original design called for six engines, but a seventh engine (and an eighth according to one source) was added “when the projected loaded weight was exceeded.” The prototype crashed from structural failure. Two more prototypes were ordered but were later cancelled.

Mikoyan-Gurevich MiG-3

On VTAP p.111 Seversky says “Of course, it became known the Russians possessed some advanced aircraft types, such as the MIG-3 fighter. This machine, with its 1300-horsepower engine and powerful armament, compared favorably even with the British Spitfire.” According to the Wikipedia article on the [Mikoyan-Gurevich MiG-3](#), it was designed as a high-altitude interceptor and at high altitude it was faster than the Spitfire or its enemy the Messerschmitt 109. However, most of the fighting on the Eastern Front was at low or medium altitudes. At lower altitudes the MiG-3 lost its speed advantage. It had handling problems too, but at the time of this book as Seversky stated it was indeed one of the most advanced aircraft in the Soviet air forces.

Airplanes versus Ships

Pearl Harbor

Seversky mentions Pearl Harbor several places in the book (e.g., VTAP p.4) but doesn't talk much about it.

HMS *Prince of Wales* and HMS *Repulse*

VTAP p.4 also tells of the sinking of the British capital ships HMS *Prince of Wales* and HMS *Repulse* by Japanese aircraft on December 10, 1941 (for details of this action see the Wikipedia article [Sinking of Prince of Wales and Repulse](#)).

Seversky uses this throughout the book as his main example of how battleships have been rendered obsolete by aircraft, and he is backed up by other sources. According to the Wikipedia article on the [HMS *Prince of Wales*](#), "her sinking by Japanese land-based bombers in the South China Sea on 10 December 1941 was the primary event that led to the end of the battleship being considered the predominant class in naval warfare."

The Wikipedia article mentions it was land-based bombers that sank these ships. On VTAP p.133, Seversky gives this as another example of the superiority of land-based bombers over ship-based bombers: "the *Bismarck*, attacked by torpedo planes from carriers, was only crippled, whereas the *Prince of Wales* and *Repulse*, attacked by shore-based torpedo planes, were swiftly sunk." Seversky claims that because of the British pride in sea power they missed the opportunity in May 1941 to test whether or not a modern capital ship (the German *Bismarck*) could be destroyed by air power alone. On VTAP p.174 he says, "Had this test been made, the British might not have risked the *Prince of Wales* and the *Repulse* in the Pacific."

On VTAP p.98 Seversky says "the demolition of that legend [of the invincibility of battleships to the blows of air power] was left to Japan, at the cost of the British battleships *Prince of Wales* and *Repulse*, not to mention American victims." While the American battleships sunk at Pearl Harbor and the British battle cruiser *Repulse* were of World War I design, Seversky points out on VTAP p.168 that:

The *Prince of Wales* was of the most modern type—the type which our experts assured us was "unsinkable."

Here are some more (but not all) quotations from the book about this incident:

- "In every instance—from the attack on Pearl Harbor and the sinking of the *Prince of Wales* and the *Repulse* ... the first arena of combat has been the 'air ocean.'" [VTAP p.124]
- "The attempt of the *Prince of Wales* and the *Repulse* to attack Japanese expeditionary forces protected by Japanese air power proved disastrous." [VTAP p.126]
- "become so many targets to be picked off at leisure even as the *Repulse* and the *Prince of Wales* were picked off." [VTAP p.333]

On VTAP p.131, Seversky emphasizes that ships cannot adequately defend themselves against airplanes: "Nor could Britain's *Prince of Wales* and *Repulse* ... drive off aerial destruction with their own anti-aircraft fire." This is probably true as demonstrated by other encounters between ships and airplanes in World War II and since then. However, according to the Wikipedia article on the [HMS *Prince of Wales*](#):

The British Director of Naval Construction's report on the sinking also claimed that the ship's anti-aircraft guns could have "inflict[ed] heavy casualties before torpedoes were dropped, if not prevent[ed] the successful conclusion of attack" had crews been more adequately trained in their operation.^[9]

- [9] [Loss of HMS PRINCE OF WALES: reports of 2nd Bucknill Committee, etc.](#) The Admiralty. Retrieved 6 June 2009.

Japanese battleship *Haruna*

After mentioning the loss of the *Prince of Wales* and *Repulse* on VTAP p.126, Seversky adds: "An equivalent attempt by the Japanese warship *Haruna* to support an invasion of the Philippines cost that ship its life. It became a target for the American air force." On VTAP p.131 Seversky lists the *Haruna* along with the *Prince of Wales* and *Repulse* as examples of ships destroyed by aerial attack.

Seversky's book does not name Colin Kelly, but it was widely believed by the American public that the [Japanese battleship Haruna](#) had been sunk by the American hero Colin Kelly flying a B-17 early in the Pacific War. The *Haruna* was not actually sunk until 1945. It was U.S. Navy aircraft that finally sank the *Haruna* in 1945, so the point Seversky was trying to make about battleships being vulnerable to aircraft still applied.

The Wikipedia article on [Colin Kelly](#) says: "Early reports misidentified *Ashigara* as the battleship *Haruna*..." The *Sarasota Herald-Tribune* of October 12, 1948 had an article [Body of Heroic Floridian Colin Kelly, Coming Home](#) that perpetuates the myth that Kelly bombed the *Haruna*.

HMS *Illustrious*

In several places throughout the book, Seversky points out the inherent limitations of ship-borne aviation and why the aircraft and their floating bases are inferior to land-based aviation. He uses the real life example of how the British aircraft carrier HMS *Illustrious* was put out of action by German air attacks off Sicily on January 10, 1941. VTAP p.77 describes how German aircraft crippled the *Illustrious*, how it limped to Malta, then Alexandria, and finally Norfolk, Virginia U.S.A. to get beyond the reach of more German air attacks. In the Wikipedia article on the German [Stuka](#) dive bomber, the section on "North Africa and the Mediterranean" describes this attack:

On 10 January 1941, the Stuka crews were told that four direct hits with 500 kg (1,100 lb) bombs would be enough to sink the carrier. The Ju 87s delivered six and three damaging near-misses, but the ship's engines remained untouched and she made for the besieged harbour of Malta.

- p. 9. Weal, John. *Junkers Ju 87 Stukageschwader of North Africa and the Mediterranean*. Oxford: Osprey, 1998. ISBN 1-85532-722-8.

On VTAP p.77 Seversky says "Only a handful of German planes, using bombs of no more than 1100 pounds, were used in the Sicilian encounter, yet they visited a considerable total of damage on the British vessels." Seversky correctly named the size of bombs used by the Germans in this battle. VTAP p.131 has "Despite its first-class anti-aircraft fire power, the *Illustrious* was damaged and put out of action by bombing planes."

HMS *Mashona*

VTAP p.97 mentions “the destruction of the *Mashona* from the air.” Wikipedia has an article about the Tribal-class destroyer HMS *Mashona* that was sunk by German air attack in May 1941 following the death of the German battleship *Bismarck*.

More U.S. aircraft

Seversky P-35 and export versions

According to the Wikipedia article on the [Seversky P-35](#), “the P-35 was the first single-seat fighter in U.S. Army Air Corps to feature all-metal construction, a retractable landing gear and an enclosed cockpit.” It was also produced in an export version. Sweden bought sixty of these and called it the J 9 in Swedish service. A second Swedish order of sixty more was taken over by the U.S. Army in 1940 and designated P-35A.

Photograph facing VTAP p.224: “SEVERSKY P-35 MODIFIED FOR EXPORT” shows this aircraft with more bombs, twice the firepower and nearly twice the range of the domestic version.

There was also a two-seat version (with a rear gunner) designated 2PA. Twenty of these were sold to Japan in the late 1930s, much to the dismay of the U.S. government. The Soviet Union also bought a couple of these two-seat versions along with a manufacturing license which may not have been used. Sweden ordered fifty-two 2PAs as the B 6 but only received two before a 1940 U.S. decision to not export military aircraft to any country other than the United Kingdom. The remaining fifty were taken over by the U.S. Army as advanced trainers and designated AT-12 Guardsman.

According to the [Design and development](#) section of the Wikipedia article on the P-35: “Aiming to increase sales, Alexander P. de Seversky personally took a P-35 on a tour of Europe in early 1939; in the process, he became the first American pilot to fly the Supermarine Spitfire.” In his book, Seversky writes about his pursuit aircraft being tested in France (VTAP pp.188–191) and in England (VTAP pp.194–195), where he also describes flying the Spitfire (VTAP p.195). On VTAP p.203 Seversky says he was invited to build his pursuits in Italy, but they refused to buy any made in America. This may have indirectly led to the Italian [Reggiane Re.2000](#) which was obviously inspired by the P-35.

On VTAP p.195, Seversky wrote “In England, I stressed especially the advantages of the long range in my single and two-seater pursuits.” Seversky wrote a memorandum to the Air Ministry about this on April 8, 1939 in which he says “Long range fighters will be especially effective in convoying bombers in their operations against hostile navies” (VTAP p.196). Besides his explicitly saying so on VTAP p.195, Seversky's use of the phrase “convoying bombers” on VTAP p.196 makes it clear that Seversky was marketing the 2PA in addition to the P-35. According to the [Design and development](#) section of the Wikipedia article on the P-35, the 2PA was dubbed “Convoy Fighter” by the manufacturer. The date of the memorandum fits the timeframe mentioned in the Wikipedia article (early 1939). Note also Seversky promoting the use of airplanes against

ships. That would be hard to sell to the British who had such a high regard for naval power.

Curtiss P-36 Hawk and export versions

On VTAP pp.188–189, Seversky describes how the French pilots testing Seversky's pursuit falsified reports. On VTAP p.191 Seversky quotes a French general who told him: "Here are the reports on your machine ... below French standards in every respect." According to Seversky, French national pride prevented them from honestly reporting that a foreign machine had superior performance to their own aircraft. On VTAP p.189, Seversky says:

When I pointed out that certain American planes, irrefutably inferior to the one I had demonstrated, were being acquired in considerable numbers despite this antiforeign bias...

The "certain American planes" Seversky refers to are almost certainly Curtiss Hawk Model 75 fighters. These are the export version of the Curtiss P-36 Hawk that lost the April 1936 United States Army Air Corps fly-off for a new single-seat fighter competing against the Seversky P-35, hence the claim that they were "irrefutably inferior" to Seversky's pursuit.

Both the Seversky plane and the Curtiss plane underperformed during the 1936 fly-off, but the more expensive Seversky plane was declared the winner and the USAAC ordered 77 of them. According to the Wikipedia article on the [P-36 Hawk](#), "The USAAC was concerned about political turmoil in Europe and about Seversky's ability to deliver P-35s in a timely matter, and therefore wanted a backup fighter." So on June 16, 1936 Curtiss was awarded a contract for three prototype Y1P-36 pursuits that had a more powerful engine and other improvements. According to the Wikipedia article again, "The new aircraft performed so well that it won the 1937 USAAC competition with an order for 210 P-36A fighters."

The French ordered several hundred Curtiss Hawk 75s (as Seversky said, "considerable numbers") because of some problems with their own fighters and rising tensions with Germany. Not all were delivered before the fall of France. England received more than two hundred from undelivered French orders and called them Curtiss Mohawks. There were also several other countries including China and Argentina that ordered export versions of this plane. The Wikipedia article says that "With around 1,000 aircraft built, the P-36 was a major commercial success for Curtiss."

Bell YFM-1 Airacuda

This aircraft had many design flaws, but it looks really cool! It looks like something from a 1930s comic book, but it was real and more than a dozen were built. The Wikipedia article on the [Airacuda](#) says:

In an effort to break into the aviation business, Bell Aircraft created a unique fighter concept touted to be "a mobile anti-aircraft platform"^[3] as well as a "convoy fighter."^[4]

- [3] Winchester, Jim (2005). "Bell YFM-1 Airacuda". *The World's Worst Aircraft*. London: Amber Books. ISBN 1-904687-34-2. p.74

- [4] Bell YFM-1 Airacuda. daveswarbirds.com, September 2009. Retrieved: 18 October 2009.

VTAP p.314 talks about the Bell YFM-1A Airacuda as “an example of American creative genius at the industrial end—hampered and perplexed by confused tactical thinking at the military end.” The Wikipedia article quotes the caption to the photograph of this plane in Seversky's book (facing VTAP p.322) as saying the Bell Airacuda

represents a great engineering achievement. But its designation as “convoy fighter” is erroneous, since that requires different disposition of armament. With its maximum firepower directed forward, it really offers a preview of an effective long-range interceptor fighter.

Lockheed P-38 Lightning

Seversky only mentions this aircraft once on VTAP p.238, and then only to promote his own design.

The same official who ruled that there must be no more air-cooled engine pursuits years later boasted publicly about the new Republic (formerly Seversky) P-47 pursuit built around such an engine. In a recent speech, after mentioning the Bell Airacobra and Lockheed P-38, he said that “eclipsing both of these, however, is the new single-engine Republic P-47B.”

I could not find any other references to the Lockheed P-38 in VTAP.

Bell P-39 Airacobra

Seversky praises the engineering and design features of the Bell P-39 Airacobra. In the caption to the photograph titled “ARMY P-39 BELL AIRACOBRA” facing VTAP p.242, Seversky says:

This fighter, with imposing fire power, is one of the finest in the world. It represents the most advanced tactical thought in engineering interpretation. It is seriously handicapped, however, by the performance of the engine with insufficient horsepower, which is the result of an erroneous and shortsighted engine-procurement policy.

Seversky complains on VTAP p.235 that “the Chief of Air Corps' office became obsessed with the liquid-cooled engine.” Besides the insufficient horsepower, another problem with the engine of the P-39 is that it didn't have a turbosupercharger for high-altitude operation. The Wikipedia article on the [P-39 Airacobra](#) states “Although its mid-engine placement was innovative, the P-39 design was handicapped by the lack of an efficient turbo-supercharger, limiting it to low-altitude work.”

The prototype XP-39's engine DID have a turbosupercharger that was removed in the production versions. If this had been kept and its problems worked out, the P-39 might have acquired a much better reputation than it did. The “Turbocharger” section of the Wikipedia article on the [Allison V-1710](#) engine says:

The original XP-39 was built with a turbosupercharged V-1710. Numerous changes were made to the design of the production version (after a review by aerodynamicists at Langley Field), including a decision to drop the turbosupercharger. This decision came out of a combination of the severe teething problems encountered with the turbosupercharger mated to the V-1710, as well as the belief of the Army at that time that high altitude performance was not necessary in a fighter plane. The P-39 was thus stuck with poor high altitude performance and proved unsuitable for the air war in Western Europe, which was largely conducted at high altitudes.

The drawing on VTAP p.241 shows a P-39 and a P-40 below 16,000 feet both being nailed by antiaircraft fire from ship and shore. VTAP p.242 quotes General Hap Arnold saying on November 29, 1941 that the P-39 “has demonstrated it is a match for the Spitfire and Messerschmitt up to 16,000 feet.” The drawing on VTAP p.241 shows the Spitfire and Messerschmitt fighting above 30,000 feet, nearly twice as high as the effective ceiling of the Airacobra.

Curtiss P-40 Warhawk

The same engine limitations described for the P-39 also apply to the Curtiss P-40, but while Seversky at least praises the design of the P-39, he really has nothing positive to say about the P-40. He disparages this plane ferociously several places in the book. On VTAP p.247, Seversky quotes General Arnold as saying on November 28, 1941 that “We no longer rate the P-40 better than a good pursuit trainer.” Seversky points out that it isn't even a good trainer, that “the accident rate for the P-40 in routine training flights has been larger than for any other pursuit built for the Army.”

VTAP p.82 says of North Africa that “both sides evidently consider it a secondary front to which inferior, untried, and even obsolete equipment has been assigned.” VTAP p.240 tells how this was where the British finally found a use for the Curtiss P-40 fighters that didn't have enough performance (especially above 16,000 feet) to use in Europe.

Part of Seversky's animosity towards the P-40 may come from the fact that after the 1939 USAAC fighter competition, Curtiss was awarded a contract for 524 P-40 aircraft (the largest single U.S. fighter order since 1918), despite Seversky's AP-4 having superior performance especially at high altitude. The P-40 was basically a P-36 with a liquid-cooled inline engine replacing the air-cooled radial engine of the earlier design. Since it was closely based on an existing model already in production, the P-40 was cheaper and could be produced sooner than the Seversky design.

Republic P-47 Thunderbolt

[Republic P-47 Thunderbolt: Aviation Darwinism](#) describes the development of this great World War II fighter from the Seversky aircraft of the 1930s. On VTAP p.238 Seversky claims the P-47B could have been produced years sooner except for the prejudice of the Air Corps against air-cooled engines. Seversky also mentions the Truman Committee in connection with the P-47. The “Truman Committee” section of the Wikipedia article on [Harry Truman](#) says:

Truman gained fame and respect when his preparedness committee (popularly known as the “Truman Committee”) investigated the scandal of military

wastefulness by exposing fraud and mismanagement.

Page 141 of *Flight* magazine August 5, 1943 featured [Democratic Document Truman Report Reviewed](#). Among other things, it says:

Discussing the single-engined fighters, the report states that Army Air Force authorities were slow in recognising the value of high-altitude fighters such as the Republic P-47 Thunderbolt...

This article in *Flight* also quoted the Truman Committee's opinion that the Curtiss P-40 "was relatively obsolete when we entered the war and of more limited value than other fighters produced by other American companies and by the British." I bet Seversky loved this Committee's report!

Boeing B-17 Flying Fortress

Throughout the book, Seversky emphasizes the need for defensive armament more than speed in bombers. VTAP p.244 says of the Flying Fortress: "Until recently, in fact, it did not even have the rear turret that has long been standard equipment on all British bombers." The caption to the photograph of a B-17E facing VTAP p.323 reads: "Note the turrets above, below, and in the tail, indicating improved fire power as compared to earlier models." The remotely controlled belly turret of the aircraft in this photograph marks this as an early production B-17E. Later B-17E and the B-17F and B-17G models had the manned Sperry ball turret.

State of the art predictions

Battleplanes

Seversky talks about "battleplanes" as part of future developments in air power. A battleplane is similar to the bombers it accompanies and protects, but instead of carrying bombs it has extra guns and ammunition (VTAP p.313). Later in World War II this was attempted by the USAAF with the Boeing YB-40 gunship version of the B-17F Flying Fortress heavy bomber. It didn't carry bombs but instead had more gun turrets, guns, and ammunition. This was before the United States had long-range fighter planes to escort their heavy bombers.

Once the regular B-17 bombers dropped their loads and headed for home, the YB-40 gunships could no longer keep up with them. While the bombers had lightened their weight considerably, the gunships still had all the weight of the extra guns and ammunition plus the aerodynamic drag of the extra gun turrets. So the battleplane idea did not work well in practice, but the Bendix Chin Turret (one of the extra gun turrets of the YB-40) became a feature of late-production B-17F and all B-17G Flying Fortress models.

Superbombers

Throughout his book Seversky emphasizes the importance of long range superbombers (VTAP pp. 339-340) as the main military power of a modern nation. On several pages the Douglas B-19 and the Glenn Martin flying boat (Martin XPB2M-1 Mars) are given as examples of the development of this type of

aircraft. On VTAP p.17 Seversky says “It is no secret that a number of other bombers, with vast range and great load-carrying capacity, are being developed, though unfortunately on a timid experimental basis.” The Boeing B-29 Superfortress is not named in VTAP. It was still top secret when this book was written. On VTAP p.315 Seversky discussed remotely controlled gun turrets as being features of combat aircraft of the immediate future. The B-29 had such turrets.

Rocket Torpedoes

On VTAP p.325 Seversky talks about “rocket torpedoes,” i.e., air to air missiles. A Google search found a newspaper article from The Pittsburgh Press of November 4, 1943 titled [Maj. Alexander P. de Seversky Writes--Germans Beat Us To Punch On Rockets, Old Weapon We Have Long Neglected](#)

Jet propulsion

On VTAP p.298, among other speculations Seversky asks “What if stratosphere flying on the reactive-propulsion principle became a reality overnight?” At the bottom of VTAP p.315, Seversky hints at the advent of jet propulsion: “the propeller may be dispensed with altogether, as promising recent experiments suggest.” What experiments could he have known about?

According to the Wikipedia article [List of jet aircraft of World War II](#) “Gloster E.28/39 - May 15, 1941 became the first jet engined aircraft to fly in the United Kingdom, and the very first jet aircraft flown by any of the Allies of World War II.” According to the Wikipedia article [P-59 Airacomet](#) “Major General Henry H. Arnold became aware of the United Kingdom's jet program when he attended a demonstration of the Gloster E.28/39 in April 1941.”

In-Flight Refueling

VTAP p.229 Seversky claims he was planning this in 1917! This ties right into my next topic, because Charles Lindbergh became famous by flying long range in an aircraft.

Charles Lindbergh

VTAP p.69 says “The claims of Germany's supreme aerial destiny—even if reiterated endlessly by an aviation hero—are nonsensical.” Does this refer to Charles Lindbergh? I think it does. Lindbergh was definitely an aviation hero, and he was also one of the most prominent speakers against America's involvement in the European war. VTAP p.84 named Lindbergh as an example of a defeatist talker. At [Charles Lindbergh's Noninterventionist Efforts & America First Committee Involvement](#), I found a link to the transcript of a speech Lindbergh delivered on May 19, 1940 called “The Air Defense of America.” The following quotation from this speech may be an example of what Seversky is talking about when he speaks of an aviation hero making claims about “Germany's supreme aerial destiny”:

In Europe, aviation has affected England adversely and Germany advantageously. One nation may have a psychology and topography which promotes the development of aviation, while another finds itself entirely unadjusted to the tempo of the air.

Lindbergh was one of the greatest prewar aviation heroes of America since flying from New York to Paris in 1927. Lindbergh visited Nazi Germany as an honored guest before the war and inspected their military aviation at the request of the American government. VTAP p.198 says, "Marshal Göring and his staff proudly displayed it [the positive side of German aviation, its numerical strength and fine organization] to eminent American aeronautical personalities visiting Germany." VTAP p.199 continues, "Thus it happened that a number of American visitors, some of them high in aviation circles, were swept off their feet by the seeming grandeur of the *Luftwaffe*." VTAP p.216 mentions how the Nazis invited some foreign visitors before the war to show off the power of the *Luftwaffe*. Lindbergh is the only American known to have flown a Messerschmitt 109 fighter, which he praised highly.

from the "Pre-war activities" section of the Wikipedia article on [Charles Lindbergh](#):

At the behest of the U.S. military, Lindbergh traveled several times to Germany to report on German aviation and the German Air Force (*Luftwaffe*) from 1936 through 1938.^[120]

Lindbergh toured German aviation facilities, where the commander of the *Luftwaffe* SA-Gruppenführer Hermann Göring convinced Lindbergh the *Luftwaffe* was far more powerful than it was. With the approval of Goering and Ernst Udet, Lindbergh was the first American permitted to examine the *Luftwaffe*'s newest bomber, the Junkers Ju 88 and Germany's front-line fighter aircraft, the Messerschmitt Bf 109. Lindbergh received the unprecedented opportunity to pilot the Bf 109. Lindbergh said of the fighter that he knew "of no other pursuit plane which combines simplicity of construction with such excellent performance characteristics." Colonel Lindbergh inspected all the types of military aircraft Germany was to use in 1939 and 1940.^[120]

Lindbergh reported to the U.S. military that Germany was leading in metal construction, low-wing designs, dirigibles and diesel engines. Lindbergh also undertook a survey of aviation in the Soviet Union in 1938, and his findings were included in air intelligence reports long before the outbreak of World War II.^[121]

- [120]. *Time Magazine*. January 19, 1939.
- [121]. pp. 39–40. Cole, Wayne S. *Charles A. Lindbergh and the Battle Against American Intervention in World War II*. New York: Harcourt Brace Jovanovich, 1974. ISBN 0-15-118168-3.

Consolidated B-24 Liberator

There is an interesting connection between Charles Lindbergh and one of the newer American aircraft featured in VTAP, the Consolidated B-24 Liberator four-engine heavy bomber. The prototype of this aircraft is shown in the middle photograph on the page of photographs facing VTAP p.243 and is described on p.244 as America's "most promising" heavy bomber design in Seversky's opinion. Part of Lindbergh's contribution to the war effort in 1942 was as a consultant of

the Ford Motor Company at the Willow Run bomber plant, a massive aircraft factory built in Michigan to produce the B-24. (Lindbergh, Charles A. *The Wartime Journals of Charles A. Lindbergh*. New York: Harcourt Brace Jovanovich, 1970. p.xiv.)

The following is from the "World War II" section of the Wikipedia article on [Charles Lindbergh](#):

As a technical adviser with Ford in 1942, he was heavily involved in troubleshooting early problems encountered at the Willow Run B-24 Liberator bomber production line. As B-24 production smoothed out, he joined United Aircraft in 1943 as an engineering consultant, devoting most of his time to its Chance-Vought Division. The following year, he persuaded United Aircraft to designate him a technical representative in the Pacific War to study aircraft performances under combat conditions. He showed Marine F4U Corsair pilots how to take off with twice the bomb load that the fighter-bomber was rated for...

F4U Corsair

The top photograph on the page facing VTAP p.243 has the caption "VOUGHT SIKORSKY AIR-COOLED NAVY FIGHTER." This photograph shows the experimental prototype of the [F4U Corsair](#), although it is not identified as such in this book. Easily recognized by its inverted gull wings, this was the first single-engine U.S. fighter to exceed 400 m.p.h. in level flight. Later in the war it was used by U.S. Marines for air superiority and ground attack missions. Variants of this aircraft served for decades with the air forces of many nations after the war.

According to the Wikipedia article on [Vought](#): "In 1939 United Aircraft moved Vought to Stratford, Connecticut where their Sikorsky division was located and renamed the entire division Vought-Sikorsky Aircraft." The Wikipedia article later says: "Vought was reestablished as a separate division in United Aircraft in 1942." The Sikorsky division of United Aircraft had nothing or little to do with developing this particular aircraft so far as I know, and by the time the F4U was put into production and service Chance Vought was its own separate division again. This is why one usually hears the maker of this aircraft referred to as Chance Vought rather than Vought Sikorsky.

In 1944 Lindbergh was a consultant for the United Aircraft Company, helping them with field testing of the F4U Corsair. A page from the Vought website (used to be at www.voughtaircraft.com/heritage/special/html/sclark_lind.html but no longer available) claims that in 1944 Lindbergh worked with a Marine to load 4000 pounds of bombs onto a Corsair: a 2000 pound bomb under the centerline and a 1000 pound under each wing. That link no longer works, but [this page](#) can still be found at Archive.org (last captured 2010-08-22).

Curtiss SB2C Helldiver

Charles Lindbergh's field work on increasing the bombload of the F4U Corsair fighter ties in indirectly to the third plane on that page of photos (facing VTAP p.243), identified in the caption as a "Curtiss dive-bomber." It is a photo of the prototype Curtiss XSB2C-1 Helldiver, although it is not identified as such in VTAP. The indirect Lindbergh connection to this plane is that by the time the bugs were worked out of the SB2C in U.S. Navy active service, later generation U.S. Navy fighters such as the F6F Hellcat and the F4U Corsair could carry nearly as

great a bombload as the SB2C with of course much greater combat ability after releasing their bombs.

The [SB2C Helldiver](#) had prolonged teething problems and such bad handling characteristics, especially at the low speeds necessary for aircraft carrier operations, that the British and the Australian governments cancelled their orders. According to Page 5 of [Curtiss SB2C Helldiver: The Last Dive Bomber](#), some U.S. Navy aircrew and aircraft carrier skippers were quite upset to have this plane forced on them when they preferred the older and slower but more reliable Douglas SBD Dauntless. Later models of the Helldiver solved many of its problems.

Information added in 2014

The first two months of 2014 I added a lot of extra information to the source code of this document in the form of structured data. Several of the biggest search engines agreed in 2011 to promote the use of the [schema.org](#) vocabulary. This added code is to help search engines better understand the content of the document by labeling items with specific properties. I added nearly a thousand microdata statements to the source code of this document. None of this added code changed the visible appearance of the page in the slightest for human visitors (unless they view the html source code).

I also updated the source code of this page (and all the other 200+ pages of my website) to html5 markup language. Because html5 has some new semantic elements (with implied meaning built in instead of being generic containers) not yet recognized by some older internet browsers still in widespread use, I had to also insert a link to a javascript "html5shiv" into the source code of this document and my other pages so these new elements can be recognized by those older browsers still in use. Maybe someday I will be able to remove the shiv.

Since none of the visible content actually changed by the addition of structured data or by updating the html version, I originally left the copyright date of this document unchanged. But then I added some more visible content, mostly stuff I meant to include back in 2010 when this essay was first published. I just never got around to adding this information until February and March of 2014. The document is now about fifteen percent bigger than before (in word count, including this explanatory section) and also has some new sections and subsections, so I thought it best to update the copyright to 2014 as shown under the title of this page.

The visible content added in 2014 includes some more quotations, extra details and comments inserted various places throughout the document. I also created a new "British aircraft" section over the existing Hawker Hurricane subsection and added a Supermarine Spitfire subsection there. I added a Mikoyan-Gurevich MiG-3 subsection in the "Soviet aircraft" section, Lockheed P-38 Lightning subsection in the "More U.S. aircraft" section, and Battleplanes and Superbombers subsections in the "State of the art predictions" section of the document. Besides having more information in it, I believe this essay flows better now. It should also be much easier now for search engines and assistive technology to better understand and navigate the content with all the extra tags I added to the source code.

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